When we look over these most diverse leaves, it is with difficulty that we can believe that they belong to but one species; were they found as fossils they would undoubtedly be referred to as many different species as there are leaves. However, they help to confirm the view that those ancient species of diverse shape are correctly identified as species of *Liriodendron;* and they also offer interesting evidence in support of the phylogenetical views advanced by the writer in the *Botanical Gazette.**

It is to be hoped that new material, which will throw a new or fuller light on the genealogy of the group, awaits the collector in the various strata which have so long furnished representatives of this genus. Careful search should also be made for species in the splendid American Tertiary series. *Liriodendron* is common enough in the European Tertiary and must have been present in America during the deposition of all the formations subsequent to the Cretaceous. It is also very probable that when the Tertiary and later formations of eastern Asia are explored new species will be brought to light, as our flora to-day has so much in common with that of eastern Asia, and as it is only in that region that our living species of *Liriodendron*—perhaps in the form of a geographical variety—is elsewhere found.

PASSAIC, N. J., January 18, 1902.

KEYS TO THE NORTH AMERICAN SPECIES OF THE COPRINEAE

BY F. S. EARLE

The tribe Coprineae includes those genera of the Agaricaceae in which the lamellae deliquesce on the ripening of the spores, forming a colored liquid. This is comparable to the method by which the spores are set free in the Gasteromycetes. It is held by some to be a primitive character and to indicate that this is the oldest group of the Agaricaceae.

* To be published shortly.

KEY TO THE GENERA OF THE COPRINEAE*

Spores, and at maturity the lamellae, black or blackish-brown. *Coprinus.*
Spores, and at maturity the lamellae, rusty brown or reddish-brown. *Bolbitius.*

KEY TO THE NORTH AMERICAN SPECIES OF BOLBITIUS

1. Stipe pilose-villous; pileus sulphur yellow. *B. vi'lipes* Fr.
   Stipe glabrous or floccose, not pilose-villous. 2.
2. Lamellae free. 3.
   Lamellae adnate; pileus light yellow; disc reddish. *B. nobilis* Pk.
   Lamellae long-decurrent; pileus bluish to rose-color. *B. macrorrhizus* B. & Mont.
3. Small; pileus 1–2½ cm. broad. *B. pulchrifolius* (Pk.) Mass.
   Larger; pileus 4–6 cm. broad. *B. radians* Morg.

KEY TO THE NORTH AMERICAN SPECIES OF COPRINUS

1. Universal veil present at least when young; pileus not splitting down the backs of the lamellae. 2.
   Universal veil absent; pileus membranaceous, splitting down the backs of the lamellae, smooth or scaly from the ruptured and exposed cells of the pileus. Sec. VI.
2. Universal veil remaining on the stipe as an annulus or as a volva. 3.
   Universal veil not forming an annulus or a volva. 4.
3. Base of stipe with a free-margined volva, annulus wanting. Sec. I.
   Annulus present at least when young, no volva. Sec. II.
4. Universal veil soon evanescent; pileus glabrate or with innate scales. Sec. III.
   Universal veil persisting on the pileus as patches, scales, fibrils of mealy granules (not glistening). Sec. IV.
   Universal veil (?) forming glistening, micaceous particles. Sec. V.

COPRINUS—SEC. I.

No species recorded from North America.

COPRINUS—SEC. II.

1. Annulus subpersistent, movable. 2.
   Annulus soon evanescent. 4.
   Annulus persistent, fixed, medial. *C. armillaris* Fr.
2. Pileus fleshy; lamellae linear. 3.
   Pileus membranaceous; lamellae ventricose. *C. squarrosus* Morg.
3. Large; pileus 8–10 cm. high. *C. comatus* Fr.
   Smaller; pileus 5–7 cm. high. *C. comatus brevic·ps* Pk.
4. Small; pileus 2–4 cm. broad. 5.
   Larger; pileus 5–11 cm. broad, lamellae broad. 6.
5. Spores large, 20–25 μ long; lamellae never rose-colored. *C. macrosporus* Pk.
   Spores smaller, 9 μ long; lamellae white to rose, then black. *C. variegata* Pk.

* In Engler & Prantl, Pflanzenfamilien, the peculiar genus *Montagnites* is included in the Coprineae. As this genus lacks the distinguishing character of deliquescent lamellae and diverges widely in other important characters it seems best to exclude it.

6. Pileus with innate brown squamules. *C. atramentarius* (Bull.) Fr.
Pileus floccose-tomentose, then glabrate. *C. quadrifidus* Pk.

COPRINUS—SEC. III.

1. Spores roughened; pileus campanulate, grayish-brown. *C. insignis* Pk.
Spores smooth. 2.
2. Pileus smooth or rimose; spores subhyaline. *C. fuscescens* (Schaeff.) Fr.
Pileus with innate brown scales; spores fuscous. *C. stenophyllus* Mont.

COPRINUS—SEC. IV.

1. Universal veil thick, breaking into persistent patches. 2.
Universal veil breaking into scales or fibrils. 3.
Universal veil breaking into mealy granules. *C. semilanatus* Pk.
2. Pileus calyptrate; spores large, 15–20 μ. *C. calyptratus* Pk.
Pileus with broad white patch-like scales; spores 8–10 μ long. *C. ebulbosus* Pk.
3. Lamellae attached to the stipe. 4.
Lamellae free. 8.
4. Prevailing color white or gray. 5.
Prevailing color yellow or brown. 7.
5. Small; pileus 1 cm. broad or less. *C. brassicae* Pk.
Larger; pileus reaching 2–3 cm. in width. 6.
6. Pileus pure white. *C. niveus* (Pers.) Fr.
Pileus gray or pallid. *C. laniger* Pk.
7. Pileus soon expanded, fuscous. *C. Seymouri* Pk.
Pileus cylindrical or campanulate, pale ochraceous. *C. virgineus* Bann. & Pk.
Pileus campanulate, fuliginous, disc spadiceous. *C. domesticus* (Pers.) Fr.
8. Prevailing color white or gray. 9.
Prevailing color yellow or brown. 11.
9. Stipe glabrous. 10.
Stipe floccose, at least when young. *C. Jonesii* Pk.
10. Spores navicular. *C. Cubensis* B. & C.
Spores curved, stipe reddish. *C. Spraguei* B. & C.
Spores globose. *C. rotundisporus* Pk.
Spores ovate; pileus 2–5 cm. broad. *C. arenatus* Pk.
Spores ovate or oval; pileus 8–12 mm. broad. *C. nycthemerus* Fr.
11. Pileus plumbeous, disc fuscous. *C. plumbeus* Pk.
Pileus pale fuscous, subglobose. *C. subglobatus* B. & C.
Pileus pale buff, campanulate. *C. lacerata* Pk.

COPRINUS—SEC. V.

1. Pileus campanulate, fulvo-ferruginous. *C. micaceus* (Bull.) Fr.

COPRINUS—SEC. VI.

1. Pileus more or less scurfy or scaly. 2.
Pileus glabrate. 6.
2. Lamellae attached to the stipe. 3.
Lamellae free. 5.

3.	Pileus gray.	*C. apiculatus* Pk.
	Pileus reddish.	*C. ephemerus* Fr.
	Pileus yellowish-brown, darker with age.	4.
4.	Pileus small, 1–1½ cm. broad; lamellae subdistant.	*C. aquatilis* Pk.
	Pileus larger, 3–5 cm. broad; lamellae crowded.	*C. Berkeleyi* Mont.
5.	Pileus with brownish scurf.	*C. Wrightii* B. & C.
	Pileus with grayish scurf.	*C. radiatus* Fr.
6.	Lamellae attached to the stipe.	7.
	Lamellae free, not reaching the stipe.	*C. plicatilis* (Curt.) Fr.
7.	Growing from a sclerotium.	*C. sclerotigenus* E. & E.
	Not from a sclerotium.	8.
8.	Lamellae subdistant.	*C. silvaticus* Pk.
	Lamellae crowded.	*C. angulatus* Pk.

New York Botanical Garden.

HANDLING HERBARIUM SPECIMENS IN CLASSES

By Francis E. Lloyd

Teachers who make use of herbarium material of any kind for demonstration in classes, especially if the number of students is large, have experienced considerable discomfort incident to the danger of damage to the specimens by rough handling. But as many of us know, with even careful handling, the danger is still great, and any method of avoiding the danger at small cost will be welcomed.

Heretofore, glazed frames of various forms have been used to some extent, and these have generally a fair degree of efficiency. The only serious objection has been their weight and costliness, and the danger of glass breakage is here, too, not slight. At any rate such frames have not come into general use. The objection may be avoided, however, by the use of sheets of transparent celluloid or xylonite instead of glass. These sheets may be used in two ways, as follows.

If it is desired to show ordinary herbarium specimens a pocket may be constructed large enough to engage an herbarium sheet of ordinary size. The pocket is made by taking a sheet of stiff cardboard and of xylonite of the same size. One edge of both xylonite and cardboard should be bound with photographers' or